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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,425	04/15/2004	Daniel J. Durda	1015.1126101	9856
28075	7590	06/07/2006	EXAMINER	
CROMPTON, SEAGER & TUFTE, LLC 1221 NICOLLET AVENUE SUITE 800 MINNEAPOLIS, MN 55403-2420			BUSHEY, CHARLES S	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,425	<b>Applicant(s)</b> DURDA, DANIEL J.	
	<b>Examiner</b> Scott Bushey	<b>Art Unit</b> 1724	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 08 May 2006.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-24 and 26-39 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-24 and 26-39 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 08 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 34, and 35 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Arbisi (Figs. 2, 6, and 7; col. 3, lines 4-52).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3, 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbisi taken together with WO 02/38510 A1.

Arbisi (Figs. 2, 6, and 7; col. 3, lines 4-52), as applied above substantially discloses applicant's invention as recited by instant claims 2, 3, 5, 9, and 10, except for the vortex shield being in the form of a multi-perforated grill, the drive shaft being a hollow air conveying shaft for delivering air to the propeller head, and the structure being mounted onto a self-leveling float/frame device.

WO 02/38510 A1 discloses an aerator similar to that of Arbisi, wherein the vortex shield is a multi-perforated grill, the drive shaft is in the form of a hollow air conveying

shaft for delivering air to the propeller head, and the aeration means is mounted onto a self-leveling float/frame device. It would have been obvious for an artisan at the time of the invention, to modify the Arbisi aerator by providing the vortex plate thereof with a multitude of small holes, in view of that as taught by WO 02/38510 A1, since such would insure against any cavitating current by insuring a calmed, perhaps laminar flow of liquid through the small holes of the vortex shield plate, as suggested by the secondary reference. Further, it would have been obvious for an artisan at the time of the invention, to substitute a well known air conveying hollow drive shaft for the separate air conveying and drive shaft means of Arbisi, in view of WO 02/38510 A1, since such would reduce the overall size and complexity of the device, thereby reducing manufacturing and maintenance costs. Lastly, it would have been obvious for an artisan at the time of the invention, to mount the aerator of Arbisi on a self-leveling float/frame device, in view of WO 02/38510 A1, since such would allow for the use of the device within deep liquid bodies, far from the edges or shores thereof.

5. Claims 5-24, 26, 27, 29-33, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbisi taken together with Karliner.

Arbisi (Figs. 2, 6, and 7; col. 3, lines 4-52), as applied above substantially discloses applicant's invention as recited by instant claims 5-24, 26, 27, 29-33, and 36-39, except for the specific form of the aerator drive shaft and float support, and the structure of the multi-propeller/atomizing screw head of the aerator. Arbisi does disclose providing an adjustable, flat vortex shield (90) near the propeller (61) to protect the propeller from damaging cavitating currents. It would have been obvious for an

Art Unit: 1724

artisan at the time of the invention, to provide the vortex shield of Arbisi in any convenient shape, including curved, as set forth by instant claim 27.

Karliner (Figs. 2, 4, and 5; col. 4, lines 1-24, 64-67; col. 5, lines 1-10, 30-40, 64-67; col. 6, lines 1-27) discloses an aeration device similar in construction to that of Arbisi, including a hollow drive shaft for conveying compressed gas to a multi-propeller atomizing head. Karliner discloses straight atomizer blades at the end of the shaft a power source that may typically range in power between 1 and 100 hp, or that it may be "much larger than 100 hp". Clearly, one having ordinary skill in the art would recognize the capability of such a drive means to operate the aerating propellers at almost any desired speed, including the rather unremarkable speed of between 700 and 1000 RPM, as recited by the instant claims. Also, in view of the disclosure of straight atomizer blades, it would have been an obvious change in shape of the known apparatus of Karliner to provide the atomizer blades having a curved shape rather than the more simply constructed straight shape. Furthermore, it would have been obvious for an artisan at the time of the invention, to optimize the diameter of the first propeller to perform the level of liquid agitation and aeration desired, as recited by instant claim 23. In conclusion, it would have been obvious for an artisan at the time of the invention, to substitute a well known air conveying hollow drive shaft for the separate air conveying and drive shaft means of Arbisi, in view of Karliner, since such would reduce the overall size and complexity of the device, thereby reducing manufacturing and maintenance costs. It would have also been obvious for an artisan at the time of the invention, to modify the aerating head of Arbisi to include multiple propellers and a set

of atomizing blades of any desired shape, in view of the teachings of Karliner, since such would have provided a more efficient aerating device at the time of the invention. Further, it would have been obvious for an artisan at the time of the invention, to mount the aerator of Arbisi on a self-leveling float/frame device, in view of Karliner, since such would allow for the use of the device within deep liquid bodies, far from the edges or shores thereof.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over the reference combination as applied to claim 22 above, and further in view of WO 02/38510 A1.

The reference combination as applied to claim 22 above substantially discloses applicant's invention as recited by instant claim 28, except for the vortex shield having a plurality of holes.

WO 02/38510 A1 discloses an aerator similar to that of the primary reference combination as applied to claim 22 above, wherein the vortex shield is a multi-perforated grill. It would have been obvious for an artisan at the time of the invention, to modify the aerator, as suggested by the reference combination as applied to claim 22 above, by providing the vortex plate thereof with a multitude of small holes, in view of that as taught by WO 02/38510 A1, since such would insure against any cavitating current by insuring a calmed, perhaps laminar flow of liquid through the small holes of the vortex shield plate, as suggested by WO 02/38510 A1.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-24, and 26-39 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note anti-cavitation shield (38) in Figs. 1 and 2 of Andersen.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is 571 272-1153. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

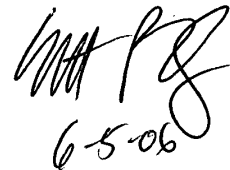
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Application/Control Number: 10/826,425  
Art Unit: 1724

Page 7

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6-5-06

Scott Bushey  
Primary Examiner  
Art Unit 1724



6-5-06